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<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/022,210	CHOE, MYONGSU	
	<b>Examiner</b>	<b>Art Unit</b>	
	DANG T. TON	2666	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to application filed 12/20/2001.
2. ☒ The allowed claim(s) is/are 1-36.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"><li>1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</li><li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li><li>3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br/>Paper No./Mail Date <u>9/26/05;12/20/01</u></li><li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li></ol> | <ol style="list-style-type: none"><li>5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</li><li>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____.</li><li>7. <input type="checkbox"/> Examiner's Amendment/Comment</li><li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li><li>9. <input type="checkbox"/> Other _____.</li></ol> |
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1. The following is an examiner's statement of reasons for allowance:

For claims 1-7, The prior art fails to teach a combination of dividing a prefix length range of an IP address in a preset method;  
creating a header node having a maximum level based on a number of clusters divided into the prefix length range, the header node pointing every node in the skip list; and  
creating sub nodes by the number of the divided clusters, the sub nodes each having the divided prefix length range as a key.

For claims 8-15, the prior art fails to teach a combination of creating a header node for pointing each node to handle every node in the skip list;  
creating a plurality of sub nodes having as a key a prefix range of an IP address divided in a preset method; and  
creating hash tables according to prefix lengths to store route entries according to prefix lengths in a corresponding prefix length range in each sub node.

For claims 16-27, the prior art fails to teach a combination of finding a node in which a prefix range corresponding to a prefix length of a route to be searched is set;  
finding hash table with the same prefix length as the route to be searched in the found node; and  
finding the search route from the found hash table.

For claims 28-33, the prior art fails to teach a combination of finding an adjacent node starting from a first node of the skip list;

comparing a destination address with respective hash tables at a corresponding node; and

considering a matching prefix as a longest prefix, when the hash table includes the destination address.

For claims 34-36, the prior art fails to teach a combination of a plurality of line card modules each equipped with a forwarding engine through which

packets are input and output;

a switch fabric for switching the packets between internal ports; and

a routing processor including a routing table having a skip list architecture comprised of a header node and a plurality of nodes each created according to a prefix range of an IP address,

having the prefix length range as a key and storing route entries in a form of hash table according to a set prefix length.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Roger (2005/0182752) and Lubbers et al. (5,671,406) are all cited to show systems which are considered pertinent to the claimed invention.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANG T. TON whose telephone number is 571-272-3171. The examiner can normally be reached on MON-WED, 5:30 AM-6:00 PM and Thur 5:30-9:30 A.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, RAO SEEMA can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

D. Ton

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Art Unit: 2666

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A handwritten signature in black ink, appearing to be 'Dang Ton', with a long horizontal stroke extending from the end.

**DANG TON**  
**PRIMARY EXAMINER**